REMARKS

Present Status of the Application

The Office Action rejected all presently-pending claims 1-4 and 6-23. Specifically, the Office Action rejected claims 1-3, 6-9, 13-16 and 19-21 under 35 U.S.C. 102, as being anticipated by World Intellectual Property Organization Publication No. 200015316 (hereinafter WO '316). In addition, the Office Action rejected claim 4 under 35 U.S.C. 103(a), as being unpatentable over WO '316 in view of Davis et al. (U. S. Patent 4,973,941). The Office Action rejected claims 10, 11, 17, 18 22 and 23 under 35 U.S.C. 103(a), as being unpatentable over WO '316 in view of Collins (U.S. Patent 4,177,453). Applicants have cancel claims 1-4 and 6-12 and amended claims 13, 20, and 22. After entry of the foregoing amendments, claims 13-23 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Summary of Applicant's Invention

The Applicant's invention is directed to an ultrasonic signaling interactive toy comprising of at least one ultrasonic transceiver inside an interactive toy. The ultrasonic transceiver is capable of transmitting and receiving ultrasonic signals. Each interactive toy includes at least one ultrasonic transceiver for producing a response after receiving an ultrasonic signal. Since ultrasonic signals can be transmitted or received using the same circuit, power consumption and production costs are low.

Discussion of Office Action Rejections

The Action rejected claims 1-3, 6-9, 13-16 and 19-21 under 35 U.S.C. 102, as being anticipated by WO '316. In addition, the Office Action rejected claim 4 under 35 U.S.C. 103(a), as being unpatentable over WO '316 in view of Davis et al.. The Office Action rejected claims 10, 11, 17, 18 22 and 23 under 35 U.S.C. 103(a), as being unpatentable over WO '316 in view of Collins. Applicants respectfully traverse the rejections for at least the reasons set forth below.

In the invention as shown, for example, in FIGs. 4A or 4B, the present invention include the digital modulation signal, of which the content carried the digital modulation signal is recovered by determine whether or not the ultrasonic signal is existing in the corresponding time period. In the detected period, if there is the ultrasonic it, for example, represent the binary data "1", otherwise it represents the data of "0". The digital content carried by the digital signal is then recovered. The features are recited in amended claim 13 as follows:

> 13. (Once Amended) An ultrasonic signaling interactive toy, comprising:
> an ultrasonic transceiver for transmitting and receiving ultrasonic signals, wherein the ultrasonic signals are transmitted with respect to a sequence of time periods to form a digital modulation signal; and
> an interactive toy having at least one internal transceiver capable of producing a response after receiving the digital modulation signal,
> ***wherein a content of the digital modulation signal is determined by whether or not the ultrasonic signal is exiting with respect to the time periods, so as to recover a content carried by the digital modulation signal.***

(Emphasis added.) Likewise, independent claim 20 recites the similar features. The features emphasized above in claims 13 and 20 are at least not disclosed by the Prior art references.

The present invention uses ultrasonic wave to carry a digital signal is not explicitly disclosed by WO '316.

In re WO '316, even though a digital signal is disclosed by WO '316 (page 12, lines 9-23), the actual mechanism to carry the digital content is not explicitly disclosed like the present invention.

In re Collins, the Office Action also cites Collins to supply the mechanism for digitally transmitting the signals. However, Applicants respectfully disagree.

Collins discloses a digital remote control system, no ultrasonic signal is used to transmit the digital content by the way recited in claims 13, 20 and 22.

The Office Action also referred to col. 2, lines 54-55; col. 3, lines 49-68; col. 4, lines 1-8. However, Collins failed to specifically disclose the features of the digital signal as recited in the amended claims 13 and 20.

Collins (specifically col. 3, lines 49-56) disclosed that the ultrasonic control signal have to be converted into the electrical signal of the same frequency. And then, ten stage binary counter is used to decode the electrical control signal. This kind of digital signal of Collins is not equivalent to the digital signal of the present invention in mechanism. The actual circuits with respect to fixed interval sampling circuit 60 (see FIG. 4A) and the envelope detection circuit (see FIG. 4B) are also recited in claims 17, 18, and 22.

In re Davis et al., Davis et al. also failed to disclose the features newly recited in the amended claims 13 and 20.

For at least the foregoing reasons, Applicants respectfully submit that independent claims 13 and 20 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 14-19 and 21-23 patently define over the prior art references as well.

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CONCLUSION

For at least the foregoing reasons, it is believed that all pending claims 13-23 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,
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